DC-1200

Intel® Pentium® N4200 Processor
Compact Fanless Embedded Computer

- Onboard Intel® Pentium® N4200 Processor
- Supports Triple Independent Display
- Supports CMI Interface for I/O Expandability
- Supports PoE+ and Power Ignition Function
  (with optional CFM modules)
- 1x 2.5" SATA Drive Bay, 1x mSATA Socket
- 2x Full Size Mini-PCIe Socket, 2x SIM Card Socket
- Compact Size (185 x 131 x 56.5 mm)
- Wide Operating Temperature -40°C to 70°C
- E-Mark (E13, No. 10R-0515075), LVD EN62368-1

Overview

Based on Intel® Pentium® N4200 quad-core processor, the DC-1200 is a fanless embedded computer offering an incredible size-performance ratio for the most challenging environments. Despite its compact size, the DC-1200 incorporates extensive connectivities including serial ports, USB 3.0, GbE LAN, full-size Mini-PCIe slot, dual SIM sockets, DVI-D, and DisplayPort. The system also provides 2.5" SATA drive bay and mSATA socket for extensive storage requirements.

Furthermore, it is much easier to utilize Cincoze' ready-to-use CMI& CFM modules for extension of digital I/O, serial ports, power ignition sensing, Power over Ethernet (PoE) even the third output of video for a variety of applications.

Featuring with rigorous industrial protections, wide temperature range, and wide range DC power input, the DC-1200 offers a powerful, expandable computing platform to ensure long-lasting performance and reduce maintenance costs.

Highlights

Highly Efficient & Compact

The DC-1200 is powered by Intel® Pentium® N4200 (4 core, 2.5 GHz) and constructed with a compact size aluminum housing. It can be easily installed into a control cabinet or any other space-limited environments.

In-Vehicle Computer

Capable of 12V/24V DC power input, wide operating temperature, shock/vibration resistant, power ignition sensing, and E-mark certified, this robust fanless computer is specifically designed for demanding in-vehicle applications.

Flexible & Modular Design

Based on Cincoze' exclusive CMI (Combined Multiple I/O) and CFM (Control Function Module) technologies, the DC-1200 can be easily configured to increase specified functions and a variety of I/O modules.

DC-1200

Specifications

Processor
- Onboard Intel® Pentium® N4200 Quad Core Processor, up to 2.50 GHz

BIOS
- AMI BIOS, 8MB SPI Flash ROM built on board

Memory
- 1x DDR3L 1333/1600/1866 MHz 204-Pin SO-DIMM Socket
- Supports up to 8GB (un-buffered and non-ECC)

Graphics
- Integrated Intel® HD Graphics 505
- Supports Triple Independent Display
  (DVI-D, DisplayPort and one output from optional CMI module)

Audio Codec
- Realtek® ALC888-GR

External I/O Interface
- 1x DVI-D (1920 x 1080 @60Hz)
- 1x DsiaplyPort (4K x 2K @60Hz)
- 2x GbE LAN (Supports WoL, Teaming, Jumbo Frame & PXE), RJ45
  - GbE1: Intel® I210
  - GbE2: Intel® I210
- 4x USB 3.0 (Type A)
- 2x RS-232/422/485 with Auto Flow Control (Supports 5V/12V), DB9
- 1x Line-out & 1x Mic-in, Phone Jack 3.5mm
- 1x ATX Power On/Off Button
- 1x Reset Button
- 1x AT/ATX Mode Switch
- 1x Clear CMOS Switch
- 1x Remote Power On/Off Connector, 2-pin Terminal Block
- 1x Ignition DIP Switch (12V/24V, need to work with CFM module)

Storage
- 1x mSATA Socket (SATA 3.0, Shared by Mini-PCIe Socket)
- 1x 2.5" HDD/SSD Drive Bay (SATA 3.0)

Expansion
- 2x Full-size Mini-PCIe Socket
- 2x Control Function Module (CFM) Interface
- 2x Combined Multiple I/O (CMI) Interface
- 2x SIM Card Socket for Signal Redundancy
- 2x Antenna Hole

Other Functions
- Watchdog Timer: Software Programmable Supports 256 Levels
  System Reset
- SuperCap Integrated for CMOS Battery Maintenance-free Operation
- Supports Instant Reboot Technology (0.2 sec)

Power Requirement
- Supports AT/ATX Power Type
- Power Input Voltage 9~48VDC
- 1x 3-pin Terminal Block
- Power Adapter AC/DC 12V/5A 60W or 24V/5A 120W (Optional)

Physical
- Dimensions (WxDxH, mm): 185 x 131 x 56.5 mm
- Weight: 1.42 kg
- Construction: Extruded Aluminum with Heavy Duty Metal
- Mounting: Wall / VESA / Din Rail (Optional: Side + Din Rail Mounting Kit)
- Unibody Chassis
- Fanless Design
- Jumper-less Design
- Cable-less Design

Protection
- Reverse Power Input Protection
- Over Voltage Protection:
  Protection Range: 51~58V
  Protection Type: shut down operating voltage, re-power on at the preset
  level to recover
- Over Current Protection: 15A
- ESD Protection: +/-8kV (air), +/-4kV (contact)
- Surge Protection: 3.84 kV (impedance 12 ohm 1.2/50us waveform)

Operating System
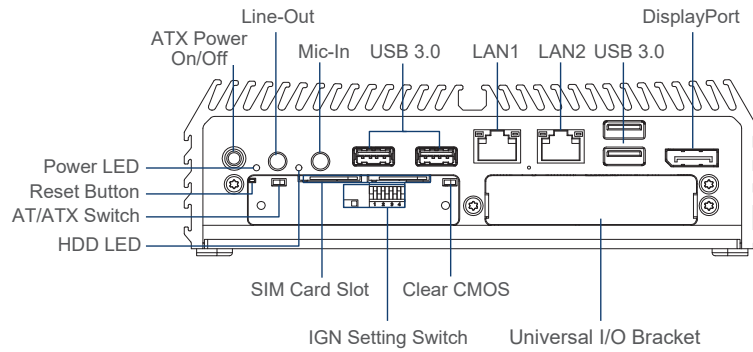- Windows® 10
- Linux: Supports by project

Environment
- Operating Temperature: -40°C to 70°C
  * With extended temperature peripherals; Ambient with air flow
  * According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14
- Storage Temperature: -40°C to 85°C
- Relative Humidity: 95%RH @ 70°C (non-Condensing)
- Shock: Operating, 50 Grms, Half-sine 11 ms Duration
  * w/ SSD, according to IEC60068-2-27
- Vibration: Operating, 5 Grms, 5-500 Hz, 3 Axes
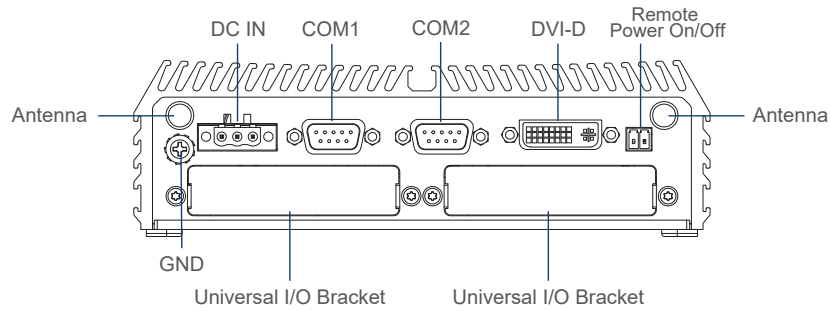 * w/ SSD, according to IEC60068-2-64
- MTBF: 479,119 Hours

Certification
- EMC: CE, FCC Class A, E-Mark (E13, No. 10R-0515075)
- Safety: LVD (EN62368-1)

DC-1200

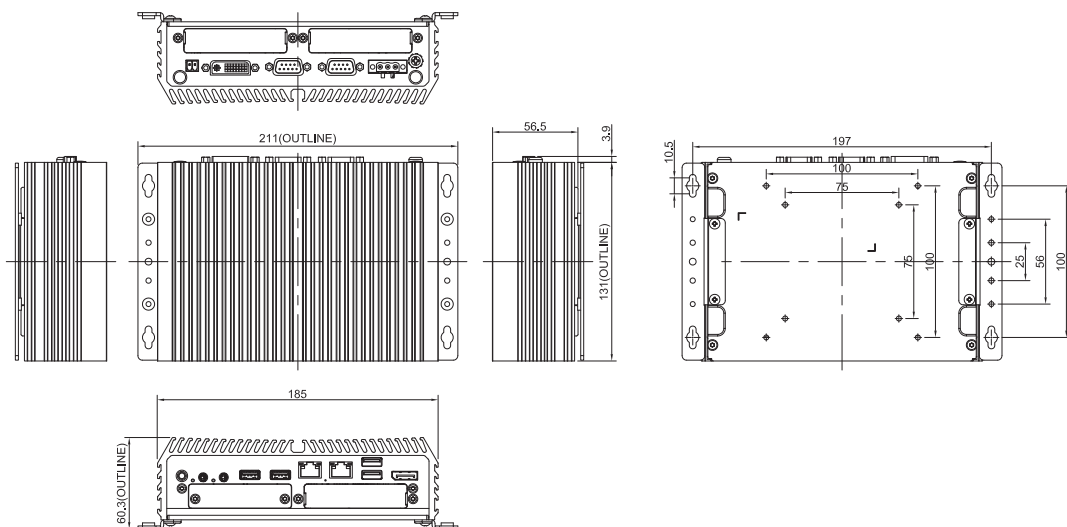## External Layout

Front I/O

Line-Out
ATX Power On/Off
Mic-In
USB 3.0
LAN1
LAN2
USB 3.0
DisplayPort

Power LED
Reset Button
AT/ATX Switch
HDD LED

SIM Card Slot
Clear CMOS

IGN Setting Switch
Universal I/O Bracket

Rear I/O

DC IN
COM1
COM2
DVI-D
Remote Power On/Off

Antenna
Antenna

GND
Universal I/O Bracket
Universal I/O Bracket

Dimensions

211(OUTLINE)
56.5
3.9
131(OUTLINE)
10.5
197
100
75
75
100
25
56
100
185
60.3(OUTLINE)

Unit: mm

ASSURED SYSTEMS

cincoze   **DC-1200**

Ordering Information

Available Models

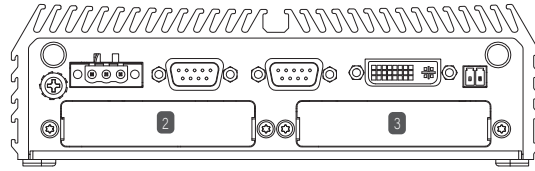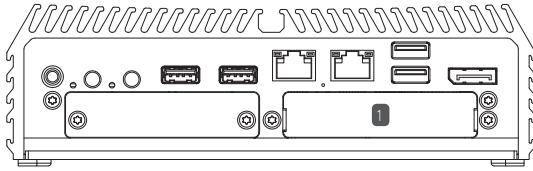| Model No.	Description
DC-1200-N42-R10	Intel® Pentium® Processor N4200 Compact Size Fanless Computer

Package Checklist

- DC-1200 Compact Size Fanless Embedded Computer x1
- Thermal Pad (for CPU Thermal Block) x1
- Screw Pack x1
- Wall Mounting Kit x1
- Utility DVD Driver x1
- Power Terminal Block Connector x1
- Remote Power On/Off Terminal Block Connector x1
- DIN Rail Mounting Kit x1

Optional Modules & Accessories

Model No.	Description
CMI-DVI01/UB1107	CMI Module with 1x DVI-D Connector for DC-1200,1x Universal Bracket with 1x DVI-D Cutout for DC-1200
CMI-VGA01/UB1116	CMI Module with 1x VGA Port for DC-1200, 1x Universal Bracket with 1x VGA Cutout for DC-1200
CMI-HD02/UB1108	CMI Module with 1x HDMI Port for DC-1200,1x Universal Bracket with 1x HDMI Cutout for DC-1200
CMI-COM03/UB1103	CMI Module with 2x RS232/422/485 (Support 5V/12V) for DC-1200,1x Universal Bracket with 2x DB9 Cutout for DC-1200
CMI-DIO03/UB1115	CMI Module with 8x Optical Isolated DIO (4 in/4 out) for DC-1200,1x Universal Bracket with DIO Cutout for DC-1200
CFM-IGN02	CFM Module with Power Ignition Sensing Control Function, Select 12V/24V
CFM-PoE02	CFM Module with PoE Control Function, Individual Port 25.5W
MEC-COM-M212-TDB9/UB1103	Mini-PCIe Module with 2x COM Ports,1x Universal Bracket with 2x DB9 Cutout for DC-1200
MEC-LAN-M102-15/UB1111	Mini-PCIe Module with 2x LAN Ports / 1x Universal Bracket with 2x RJ45 Cutout for DC-1200 Front Bezel
MEC-LAN-M102-15/UB1129	Mini-PCIe Module with 2x LAN Ports / 1x Universal Bracket with 2x RJ45 Cutout for DC-1200 Rear Bezel
SIDE03	Side Mount Kit for DC-1200 Series, with KMRH-K175 for DIN-Rail option
GST60A12-CIN1	Adapter AC/DC 12V 5A 60W, GST60A12-CIN, wide temp(-30℃ ~ +70℃), level VI
GST120A24-CIN	Adapter AC/DC 24V 5A 120W, GST120A24-CIN, wide temp(-30℃ ~ +70℃), level VI
SL2-SL3	US 2 heads power cord, US B type to IEC C13, SVT 18AWG/3C Black 1.8M SL -2+SL -3
SL6-SL3	EU 2 heads power cord, EU G type to IEC C13, H05VV-F 0.75mm2/3G Black 1.8M SL -6+SL -3
QP026-SL3	UK 2 heads power cord, UK I type to IEC C13 ,H05VV-F 0.75mm2/3G Black 1.8M QP026+SL -3

ASSURED SYSTEMS

cincoze   DC-1200

Optional Module Configuration

Model No.	Description	1	2	3
CMI-DVI01/UB1107	CMI Module with 1x DVI-D Connector for DC-1200,1x Universal Bracket with 1x DVI-D Cutout for DC-1200	--	--	V
CMI-VGA01/UB1116	CMI Module with 1x VGA Port for DC-1200, 1x Universal Bracket with 1x VGA Cutout for DC-1200	--	--	V
CMI-HD02/UB1108	CMI Module with 1x HDMI Port for DC-1200,1x Universal Bracket with 1x HDMI Cutout for DC-1200	--	--	V
CMI-COM03/UB1103	CMI Module with 2x RS232/422/485 (Support 5V/12V) for DC-1200, 1x Universal Bracket with 2x DB9 Cutout for DC-1200	--	V	V
CMI-DIO03/UB1115	CMI Module with 8x Optical Isolated DIO (4 in/4 out) for DC-1200, 1x Universal Bracket with DIO Cutout for DC-1200	--	V	V
MEC-COM-M212-TDB9/UB1103	Mini-PCIe Module with 2x COM Ports,1x Universal Bracket with 2x DB9 Cutout for DC-1200	V	--	--
MEC-LAN-M102-15/UB1111	Mini-PCIe Module with 2x LAN Ports / 1x Universal Bracket with 2x RJ45 Cutout for DC-1200 Front Bezel	V	--	--
MEC-LAN-M102-15/UB1129	Mini-PCIe Module with 2x LAN Ports / 1x Universal Bracket with 2x RJ45 Cutout for DC-1200 Rear Bezel * Only compatible with half slim SSD and mSATA when MEC-LAN is installed at Rear Bezel	--	--	V

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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